

Appl. No. 10/787,485  
Amdt. dated 09/20/2007  
Response to Office Action of 07/27/2007

Attorney Docket No.:N1085-00199[TSMC2003-0402]  
N1280-155

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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

- 1 1. (Previously Presented): An integrated material transport system for an integrated circuit manufacturing factory, the system comprising:
  - 2 a first material transport subsystem traveling along a first rail at a first height;
  - 3 a second material transport subsystem traveling along a second rail at a second height; and
  - 4 a predetermined material stocker having at least one material transfer port to be shared by both the first and second transport subsystems,
    - 5 wherein the material transfer port has an elongated opening within a sidewall of the material stocker, and the elongated opening accommodates both the first material transport subsystem and the second material transport subsystem and has a vertical dimension larger than a sum of vertical dimensions of at least two cassettes, and
    - 6 wherein both the first and second material transport subsystems are serviced by an integrated rail subsystem for exchanging predetermined materials through the material transfer port with the predetermined material stocker under a ceiling with a uniform height.
- 1 2. (Cancelled)
- 1 3. (Currently Amended): The system according to claim 1 wherein the predetermined material stocker is located between the production bay and a main corridor.
- 1 4. (Currently Amended): The system according to ~~claims~~ claim 1 wherein the second material transport subsystem is an interbay material transport subsystem for providing material transfer between the predetermined material stocker and at least one other material stocker.

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1 5. (Original): The system according to claim 1 wherein the second material  
2 transport subsystem is located outside of a production bay and within a main corridor.

1 6. (Cancelled)

1 7. (Original): The system according to claim 1 wherein the material transfer port is  
2 located on a main corridor side of the predetermined material stocker.

1 8. (Original): The system according to claim 1 wherein the ceiling height is  
2 approximately 3 – 5 meters.

1 9. (Previously Presented): The system according to claim 1 wherein the first and  
2 second material transport subsystems operate simultaneously.

1 10. (Currently Amended): An integrated material transport system for an integrated  
2 circuit manufacturing factory, the system comprising:

3 a first material transport subsystem having at least one over-head transport  
4 module traveling at a first height for providing material transfer within a production bay  
5 and between at least two production bays;

6 a second material transport subsystem having at least one over-head shuttle  
7 traveling at a second height for providing material transfer between the at least two  
8 production bays;

9 a predetermined material stocker having at least one material transfer port to be  
10 shared by both the first and second transport subsystems, wherein the material transfer  
11 port has an elongated opening within a sidewall of the material stocker, and the  
12 elongated opening accommodates both the first material transport subsystem and the  
13 second material transport subsystem and has a vertical dimension larger than a sum of  
14 vertical dimensions of at least two cassettes; and

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15       an integrated rail subsystem servicing both the first and second material  
16      transport subsystems at the first and second heights for exchanging predetermined  
17      materials through the material transfer port with the predetermined material stocker so  
18      that the factory does not need different portions of its ceiling having different heights to  
19      accommodate the first and second material transport subsystems.

1     11. (Cancelled)

1     12. (Original): The system according to claim 10 wherein the material transfer port is  
2      located on a main corridor side of the predetermined material stocker.

1     13. (Original): The system according to claim 10 wherein the factory has a ceiling  
2      height of approximately 3 – 5 meters.

1     14. (Original): The system according to claim 10 wherein the integrated rail  
2      subsystem has two rails at different heights for servicing the first and second material  
3      transport subsystems simultaneously.

1     15. (Currently Amended): A method for integrating intrabay and interbay material  
2      transport systems in an integrated circuit manufacturing factory, the method comprising:  
3          providing a first material transport system;  
4          providing a second material transport system; and  
5          providing a predetermined material stocker having at least one material transfer  
6      port shared by both the first and second transport systems,  
7          wherein the material transfer port has an elongated opening within a sidewall of  
8      the material stocker, and the elongated opening accommodates both the first material  
9      transport subsystem and the second material transport subsystem and has a vertical  
10     dimension larger than a sum of vertical dimensions of at least two cassettes, and

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11       wherein an integrated rail section services both the first and second material  
12 transport systems for exchanging predetermined materials through the material transfer  
13 port with the predetermined material stocker under a ceiling with a uniform height,  
14       wherein the integrated rail section has two rail subsystems at different heights for  
15       servicing the first and second material transport systems simultaneously.

1     16. (Cancelled)

1     17. (Previously Presented): The method according to claim 15 wherein the  
2 predetermined material stocker is located between the production bay and a main  
3 corridor.

1     18. (Original): The method according to claims 15 wherein the second material  
2 transport system is an interbay material transport system for providing material transfer  
3 between the predetermined material stocker and at least one other material stocker.

1     19. (Original): The method according to claim 15 wherein the second material  
2 transport system is located outside of a production bay and within a main corridor.

1     20. (Original): The method according to claim 15 wherein the material transfer port  
2 has a size sufficient to accommodate both the first material transport system and the  
3 second material transport system.

1     21. (Original): The method according to claim 15 wherein the material transfer port is  
2 located on a main corridor side of the predetermined material stocker.

1     22. (Original): The method according to claim 15 wherein the uniform ceiling height is  
2 approximately 3 – 5 meters.

1     23. (Cancelled)

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1 24. (Previously presented): The system of claim 1, wherein the first material transport  
2 subsystem is an overhead transport and the second material transport subsystem is an  
3 overhead shuttle system.

1 25. (Previously presented): The system according to claim 1, wherein the first  
2 material transport subsystem comprises an intrabay material transport subsystem for  
3 providing material transfer within a production bay or between the production bay and  
4 the predetermined material stocker.

1 26. (Previously presented) The method according to claim 15, wherein the first  
2 material transport system comprises an intrabay material transport system for providing  
3 material transfer within a production bay or between the production bay and the  
4 predetermined material stocker.

1 27. (Previously presented): The method according to claim 15 wherein the elongated  
2 opening services the first and second material transport systems simultaneously.